In the claims

1. (Currently amended) A process for preparation of ceftiofur sodium of formula (Ib) possessing high stability and having purity of more than 97% and substantially free of impurities, comprising

i) reacting cefotaxime or its salts or its esters of formula (VI)

wherein R₃ is hydrogen, an alkali or alkaline earth metal, or an easily hydrolysable ester, with thiofuroic acid, employed in a molar proportion of 1.5 to 3.0 moles per mole of compound (VI), in the presence of acetonitrile as solvent and in the presence of large excess of methanesulfonic acid, employed in molar proportions of 12 to 18 moles per mole of compound (VI), and at a temperature of between -5 °C to 30 °C to give after necessary neutralisation of the alkali or alkaline earth metal or removal of the ester group of the 4-carboxylic acid function, wherever applicable, ceftiofur of formula (Ia), possessing high stability and having purity of more than 97% and substantially free of impurities;

-

- ii) converting the ceftiofur of formula (Ia) thus obtained to its salt with an organic amine by treating a solution of ceftiofur in a mixture of water and a water-miscible organic solvent with an organic amine, at a temperature ranging from -10 °C to 10 °C;
- reaction of reacting the amine salt thus obtained with a sodium metal carrier in a mixture of water and water-miscible organic solvent and in presence of sodium hydrogen sulfite to give ceftiofur sodium of formula (Ib).
- 2. (Currently amended) The process A process according to claim 1, wherein the temperature of step i) is between 10^{0} C to 30^{0} C, preferably between 15^{0} C to 30^{0} C.
- 3. (Currently amended) The process A process according to claim 1, wherein the water-miscible organic solvent is selected from the group consisting of acetone, tetrahydrofuran, acetonitrile, methanol and ethanol.
- 4. (Currently amended) The process A process according to claim 1, wherein the organic amines are amine is selected from the group consisting of triethyl amine, diethylamine, cyclohexylamine, tertiary butyl amine and benzyl amine.
- 5. (Currently amended) The process A-process according to claim 4, wherein the organic base amine is employed in molar proportions of 1.0 to 3.0 moles per mole of ceftiofur (Ia). preferably in molar proportions of 1.2 to 1.5 moles per mole of ceftiofur (Ia).
- 6. (Currently amended) The process A process according to claim 1, wherein the sodium metal carrier is selected from the group consisting of sodium hydroxide, sodium carbonate, sodium bicarbonate, sodium ethoxide, sodium acetate, sodium propionate, sodium 2 ethyl hexanoate sodium 2-ethyl hexanoate, and sodium [[of]] 2-ethylcaproate.

- 7. (New) The process according to claim 1 wherein the ceftiofur sodium is stable for 90 days at $40^{\circ}\text{C} \pm 2^{\circ}\text{C}$.
- 8. (New). The process according to claim 1 wherein the hydrolysable ester is selected from the group consisting of lower alkanoylalkyl esters; lower alkoxycarbonyloxyalkyl esters; alkoxymethyl esters, lower alkylaminomethylesters, benzyl esters and cyanomethyl esters.
- 9. (New) The process according to claim 1, wherein the temperature of step i) is between $15^0\,\text{C}$ to $30^0\,\text{C}$.
- 10. (New) The process according to claim 4, wherein the organic amine is employed in molar proportions of 1.2 to 1.5 moles per mole of ceftiofur (Ia).